

REMARKS

Claim 14 having been withdrawn from consideration, Claims 1-13 and 15-18 are now presented for examination. Claims 2 through 5, 8, 9 and 14 have been cancelled without prejudice or disclaimer of subject matter. Claims 1, 6, 10-13, 15 and 18 have been amended to define still more clearly what Applicants regard as their invention, in terms which distinguish over the art of record. Claim 1 is the only independent claim.

Applicants affirm the election of Claims 1 through 13 and 15 through 18 of which Claims 2-5, 8, 9 and 14 have been cancelled and Claims 1, 6, 7, 10-13 and 15-18 remain pending.

The drawings have been objected to in that Figs. 14A, 14B and 15 should be designated as prior art and in that element 155 in Fig. 15 and element 161 in Fig. 16B are not mentioned in the specification. It is proposed to amend each of Figs. 14A, 14B and 15 to include a label "PRIOR ART" and to further amend Fig. 15 to remove element 155. With regard to the element 161 in Fig. 16B, the specification has been amended in paragraph 054 to refer to "side cracks 161". The proposed changes are shown indicated in red in the enclosed drawing sheets. Approval of the changes is respectfully requested.

Claims 5-13 and 15-18 have been objected to under 37 C.F.R. § 1.75(c) as being in improper form in having a multiple dependent claim depend from another multiple dependent Claim. Claims 5, 8 and 9 have been cancelled and Claims 6, 7, 10-12, 15 and 18 have been amended to remove the multiple dependencies. In view of these changes, it is believed that Claims 6, 7, 10-12 and 15-18 meet all requirements with respect to dependencies.

Cancelled Claim 4 was rejected under 35 U.S.C. § 112, second paragraph, in that the recited fine line thickness equal to or more than 5 μm is an open-ended range which renders the claim indefinite. Claim 1 as currently amended, however, includes the objected-to limitation

"the fine line has a thickness equal to or more than 5 μm ". The objected-to limitation has been changed to "the fine line has a thickness of at least 5 μm ". This limitation is supported by the disclosure in the specification at least at lines 7 through 15 of page 12 which clearly relates the thickness equal to or more than 5 μm to the problems of peeling of end portions of a fine line, end-portion cracks, etc. so that the feature of thicknesses relative to peeling, end-portion cracks, etc. is obvious to one skilled in the art.

In accordance with M.P.E.P. 2173.04 breadth of a claim is not to be equated with indefiniteness. *In re Miller*, 441 F.2d 689, 169 USPQ 597 (CCPA 1971). If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph. Further, in accordance with M.P.E.P. 2173.05(c) generally, the recitation of specific numerical ranges in a claim does not raise an issue of whether a claim is definite although open-ended numerical ranges should be carefully analyzed for definiteness. With regard to the objected-to recitation, it is believed that the limitation of "at least 5 μm " as disclosed in the specification with respect to the problems of peeling, etc. clearly teaches the scope of the invention to one skilled in the art.

Claims 1-4 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,404,473 (Kaneko). With regard to the claims as currently amended, this rejection is respectfully traversed.

Independent Claim 1 as amended is directed to a substrate having a fine line formed on the substrate. The fine line has a narrow-width portion at an end portion of the fine line in a longitudinal direction of the fine line. The width of the narrow-width portion is smaller than the width of a portion adjacent to the narrow-width portion. In a section of the fine line cut normal on

the face forming the fine line on the substrate, the section has a part away from the substrate side-end of the section. The length of the section part parallel to the substrate face is longer than the length of the substrate-side end of the section in the direction parallel to the substrate face. The fine line has a thickness of at least 5 μm .

The features relating to section parts of the fine line in Claim 1 are disclosed at least from line 6 of page 9 to line 15 of page 10 with reference to Figs. 17A through 17D. No new matter is believed to have been added.

In Applicants' view, Kaneko et al. discloses a liquid crystal display device having a wiring line of a laminated structure over an insulating substrate. The laminated structure includes a first layer made of a first metal layer, and a second layer formed over the first layer and made of a second metal layer having the same principal component as that of the first metal layer but a different added element and/or a different composition. The first layer has a side end face of a right-tapered shape, whereas the second layer has a side end face set at a right angle or counter-tapered with respect to the substrate face.

Kaneko et al. may disclose a multilayer wiring line with side end faces that are tapered. The tapering in Kaneko as clearly shown in Fig. 9 is of the center layer of a three layer structure in which the thickness of the center layer is decreased at its end. In contrast, it is a feature of Claim 1 that the width of a narrow-width portion at the end of a fine line is smaller than a width of the adjacent portion. It is a further feature of Claim 1 that the fine line in cross-section has a part parallel to and away from the substrate face that is longer than the substrate-side-end of the section as shown in Figs. 17A-17D. It is not seen that Kaneko et al. suggests any corresponding line structure. It is an additional feature of Claim 1 that the fine line has a thickness of at least 5 μm . Kaneko et al. is devoid of any suggestion of fine lines 5 μm or greater thickness.

Accordingly, it is not seen that Kaneko et al. in any manner teaches or suggests the feature of a narrow-width portion at the end of a fine line is smaller than a width of the adjacent portion combined with the feature of fine line in cross-section has a part parallel to and away from the substrate face that is longer than the substrate-side-end of the section combined with the feature of the fine line has a thickness of at least 5 μm . It is therefore believed that Claim 1 as currently amended is completely distinguished from Kaneko et al. and is allowable thereover.

Claims 1-4 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,522,378 (Mizuno et al.). With regard to the claims as currently amended, this rejection is respectfully traversed.

In Applicants' opinion, Mizuno et al. discloses a liquid crystal display in which an electrode width of intermediate connection wiring that connects terminal electrode and common electrode is made narrower than an electrode width of terminal electrode at forming an electrode pattern on one of substrates configuring a liquid crystal display device. This enables the prevention of detrimental effect of cutting and polishing the periphery of a liquid crystal cell onto the terminal electrode. A laser irradiation process required for removing the common electrode is eliminated, and thus manufacturing cost may be reduced.

Mizuno et al. may teach a line structure wherein the width of an intermediate connection wiring which connects a terminal electrode and common electrode is made narrower than an electrode width of the terminal electrode. The common electrode is later removed. As discussed with respect to Kaneko et al., it is one feature of Claim 1 that a fine line in cross-section has a part parallel to and away from the substrate face that is longer than the substrate-side-end of the section and another feature that the fine line has a thickness of at least 5 μm . Mizuno et al., however, is devoid of any disclosure or suggestion of these features of Claim 1. Accordingly, it is

not seen that Mizuno et al. in any way teaches or suggests the feature of a fine line in cross-section that has a part parallel to and away from the substrate face that is longer than the substrate-side-end of the section combined with the feature of the fine line that has a thickness of at least 5 μm . It is therefore believed that Claim 1 as currently amended is completely distinguished from Mizuno et al. and is allowable thereover.

Claims 1-4 have been rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,226,060 (Onisawa). With regard to the claims as currently amended, this rejection is respectfully traversed.

Onisawa et al., in Applicants' view, relates to an active matrix type liquid crystal display device in which at least material of one element, forming the connecting portion between signal transfer lines related to the scan lines and the data signal lines of the device, is an alloy of at least a chemical element selected from the group consisting of Nb, Mo, Ta, and W, with Cr. The scan lines and a scan pulse generator are connected to each other via a first opening formed in an insulating film. The data signal lines and the image data generator are connected to each other via a second opening formed in an insulating film. A polycrystalline thin film, which is connected to the means for generating scan pulses, is inserted into the first opening, and a polycrystalline thin film, which is connected to the image data generator, is inserted into the second opening. The polycrystalline thin film is composed of indium tin oxide, which is made of mainly indium oxide and added tin oxide, having a specific resistance of, at the utmost, $6 \times 10^{-4} \Omega\text{cm}$.

Onisawa et al. discloses lines of an alloy of at least a chemical element selected from the group consisting of Nb, Mo, Ta, and W, with Cr that have thicknesses in the order of hundreds of nm. Embodiment 3 of Onisawa may refer to edge tapering of Cr-Mo films but fails in any manner to teach or suggest a narrow-width portion at the end of a fine line that is smaller than

a width of the adjacent portion, a fine line in cross-section has a part parallel to and away from the substrate face that is longer than the substrate-side-end of the section combined or a fine line having a thickness of at least 5 μm as in Claim 1. Accordingly, it is not seen that Onisawa et al. in any manner teaches or suggests the combination of these features of Claim 1. It is therefore believed that Claim 1 as currently amended is completely distinguished from Onisawa et al. and is allowable.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claim herein. That claim is therefore believed patentable over the art of record.

The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in cursive script, reading "Jack S. Cubert", written over a horizontal line.

Attorney for Applicant

Jack S. Cubert

Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
SEW/JSC/dc